

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant: Tobias Helbig

Examiner: Daniel Lai

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APPEAL BRIEF

Appellant appeals the status of Claims 1, 3, 6, 7, 9 and 11 as presented in response to the final Office Action dated April 13, 2010, and submits this Appeal Brief.

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1. Real Party in Interest

The real party in interest is Koninklijke Philips Electronics, N. V., the assignee of the entire right, title and interest in and to the subject application by virtue of an assignment recorded with the U.S. Patent and Trademark Office on February 3, 2006, at Reel/Frame 017545/0770.

2. Related Appeals and Interferences

Appellant is not aware of any appeals or interferences related to the present application.

3. Status of Claims

- a) Claims 1, 3 – 7 and 9 – 11 are pending. Claims 1, 7 and 11 are independent.
- b) Claims 1, 3, 6, 7, 9 and 11 stand rejected and are under appeal.
- c) Claims 4, 5 and 10 are objected to.
- c) Claims 2, 8 and 12 are cancelled without prejudice.

4. Status of Amendments

An amendment under 37 C.F.R. § 1.111, mailed to the USPTO on January 15, 2010, in response to a non-final Office Action dated October 15, 2009, was entered. No other responses/amendments were filed subsequent to the January 15, 2010 response, nor are any amendments pending. The claims listed in section 8 "Claims Appendix" of this Appeal Brief correspond to the claims submitted in Appellant's response of January 15, 2010.

5. Summary of Claimed Subject Matter¹

The claimed invention, as recited in independent claim 1, is directed to a wireless network system (Fig. 1; page 3, line 1), comprising: a first access point for providing a first communication channel to a first terminal (page 3, lines 1 – 2); a second access point for providing a second communication channel to a second terminal (page 3, lines 2 – 3); wherein the first access point is adapted to build up a third communication channel to the second access point to coordinate a setting of the first and second communication channels (page 3, lines 4 – 6); wherein the first access point is adapted to perform a detection for the second access point (page 3, line 15); wherein the first access point is adapted to establish the third communication channel to the second access point when the second access point is detected via at least one of a core network and a wireless channel (page 3, lines 4 – 6); wherein the first access point is adapted to determine whether there is a first free channel and a second free channel (page 3, lines 22 – 23); and wherein, in case there are first and second free channels, the first access point is adapted to control a setting of the first and second

¹ *It should be explicitly noted that it is not the Appellant's intention that the currently claimed or described embodiments be limited to operation within the illustrative embodiments described below beyond what is required by the claim language. Further description of the illustrative embodiments are provided indicating portions of the claims which cover the illustrative embodiments merely for compliance with requirements of this appeal without intending to read any further interpreted limitations into the claims as presented.*

communication channels on the basis of the first and second free channels (page 3, lines 23 – 25).

The claimed invention, as recited in independent claim 7, is directed to an access point device for a wireless network system (Fig. 1; page 4, line 9), wherein the access point device is adapted to: provide a first communication channel to a terminal (page 3, lines 1 – 2); and build up a second communication channel to another access point to coordinate a setting of the first communication channel (page 4, lines 9 – 15); wherein the access point device is further adapted to: perform a detection for the other access point (page 3, line 15); and establish a second communication channel to the other access point when the other access point is detected via at least one of a core network and a wireless channel (page 3, lines 4 – 6); wherein the first access point is further adapted to determine whether there is a first free channel (page 3, lines 22 – 23); and wherein, in case there is the first free channel, the first access point is further adapted to control a setting of the first communication channel on the basis of the first free channel (page 3, lines 23 – 25).

The claimed invention, as recited in independent claim 11, is directed to a method of operating an access point of a wireless network (Figs. 2a and 2b; page 4, lines 22 – 23), the method comprising the steps of: providing a first communication channel to a terminal (page 3, lines 1 – 2); building up a second communication channel to another access point to coordinate a setting of the communication channel (page 3, lines 4 – 6; page 4, lines 24 – 25); performing a detection for the other access point (page 3, line 15); establishing a second communication channel to the other access point when the other access point is detected via at least one of a core network

and a wireless channel (page 3, lines 4 – 6); determining whether there is a first free channel (page 3, lines 2 – 23); controlling a setting of the first communication channel on the basis of the first free channel in case there is the first free channel (page 3, lines 23 – 25); determining a first interference and channel usage map in case there is no first free channel (page 3, lines 27 – 28); requesting a second interference and channel usage map from the other access point in case there is no first free channel (page 3, lines 27 – 28); determining an optimized channel lay-out on the basis of the first and second interference and channel usage maps (page 3, lines 28 – 30); and controlling the setting of the first communication channel on the basis of the optimized lay-out (page 3, lines 28 – 30).

6. Grounds of Rejection to be Reviewed on Appeal

A. Whether claims 1, 3, 6, 7, and 9 are properly rejected under 35 U.S.C. §102(b), as allegedly being anticipated by Busch et al. (US 2002/0176437 A1, hereinafter Busch).

B. Whether claim 11 is properly rejected under 35 U.S.C. §102(b), as allegedly being anticipated by Jaszewski et al. (US 5,933,420, hereinafter Jaszewski).

7. Argument

Appellant respectfully traverses the rejections in accordance with the detailed arguments set forth below.

A. Claims 1, 3, 6, 7, and 9 are not properly rejected under 35 U.S.C.

§102(b), as allegedly being anticipated by Busch.

It is respectfully submitted that the Examiner failed to establish a *prima facie* case of anticipation, because as discussed below, Busch does not disclose all the limitations in Appellant's claims.

1. Claim 1

For example, claim 1, in part, requires:

"wherein the first access point is adapted to determine whether there is a first free channel and a second free channel; and

wherein, in case there are first and second free channels, the first access point is adapted to control a setting of the first and second communication channels on the basis of the first and second free channels." (Emphases added)

In the Office Action, page 2, Response to Arguments section, the Examiner states that Busch discloses detecting for a plurality of possible channels (paragraph [0018]), where a regCSIQ parameter is calculated for the possible channels based on channel sharing and interference, and the regCSIQ parameter is used to determine for channel swapping, and swap channels if such "possible channels" would increase performance (paragraphs [0067] – [0078]; Fig. 5). The Examiner further asserts that channels capable of being shared and with low interferences are "free channels" and will be swapped between access points. Appellant respectfully traverses.

Appellant submits that the "possible channels" being swapped in Busch are not free channels. As clearly disclosed by Busch, in the initial situation, the access points AP1, AP2, AP3 are communicating with their network stations on channels C1, C2, C3,

respectively (paragraph [0054]; Fig. 1a). Since channels C1, C2, C3 are being used, they are not "free channels."

In Figs. 5 and 6, paragraphs [0072] – [0079], Busch appears to teach a system in which access points are capable of swapping frequency channels under certain conditions. When a first access point determines that a swap should occur, the first access point so informs the second access point with a swap request. If and when the second access point responds affirmatively to the swap request by the first access point, the channel swap is initiated with the first access point assuming control and communicating over the communication channel heretofore used by the second access point and with the second access point concurrently assuming control and communicating over the communication channel heretofore used by the first access point. In this way, each access point in Busch involved in a swap transfers its communications onto the channel (e.g. C1, C2, C3) that had been used by the other access point that is party to the swap. No other channels are taught or suggested by Busch for swapping. Since channels C1, C2, C3 are being used by the access points AP1, AP2, AP3 to communicate with their network stations, these channels are not free channels.

From this analysis, it is clear that Busch does not teach or even remotely suggest the existence, determination, or use of free channels as required in the claim. Busch lacks any mention of the concept of a free channel. Busch only swaps channels that, up to the point of the swap, were in use by the access points involved in the swap. A channel that is in use cannot be considered by any reasonable interpretation as a "free channel," even if it is capable of being shared and with low interferences.

The claimed invention as recited in claim 1 also requires that the operation of "the first access point ... to control a setting of the first and second communication channels" is pre-conditioned on the determination that "there are first and second free channels." As already discussed above, Busch's access points fail to make any determination about the existence of a free channel. Furthermore, there is no teaching in Busch that the control of the channel swapping is conditioned on the existence of "first and second free channels," as required by the claimed invention. Instead, Busch's channel swapping is conditioned on the existence of two communications channels already in use by the access points that are parties to the channel swap. Therefore, Busch does not disclose the above claimed feature.

Furthermore, Appellant submits that the difference between the claimed invention and Busch is more than mere recitation of intended use. They are structurally different because the claimed invention requires determining the existence and use of free channels while Busch only swaps channels that are being used, and the structure required to determine and control free channels is clearly different from that for existing channels being used.

In view of at least the foregoing, Appellant submits that claim 1 is patentable over Busch and the rejection should be reversed.

2. Claim 7

Similarly, independent claim 7, in part, requires:

"wherein the first access point is further adapted to determine whether there is a first free channel; and

wherein, in case there is the first free channel, the first access point is further adapted to control a setting of the first communication channel on the basis of the first free channel.” (Emphases added)

Claim 7 is different from claim 1 and is to be interpreted independently. However, Appellant essentially repeats the above arguments for claim 1 and applies them to claim 7, pointing out why Busch fails to disclose the existence or use of a free channel, the determination of a free channel, the conditioning of an operation on the existence of a free channel, or the use of a free channel as a basis for controlling the setting of a channel. Therefore, for at least the above reasons, claim 7 is patentable over Busch and the rejection should be reversed.

3. Claims 3, 6 and 9

Dependent claims 3, 6 and 9 respectively depend from and inherit all the features of either claim 1 or 7. Thus claims 3, 6 and 9 are patentable for at least the reason that they respectively depend from either claim 1 or 7, with each claim containing further distinguishing features. Therefore, the rejection of claims 3, 6 and 9 should be reversed.

B. Claim 11 is not properly rejected under 35 U.S.C. §102(b), as allegedly being anticipated by Jaszewski.

It is respectfully submitted that the Examiner failed to establish a *prima facie* case of anticipation, because as discussed below, Jaszewski does not disclose all the limitations in Appellant's claim.

Claim 11, in part, requires:

*"determining whether there is a first free channel;
controlling a setting of the first communication channel on the basis of the
first free channel in case there is the first free channel."* (Emphases added)

In Jaszewski, the network manager uses the information to generate new channel assignments to reduce channel conflict and the attendant interference (column 5, lines 16 – 19). However, the network manager of Jaszewski, when analyzing the received local neighbor tables, does not appear to determine whether any channels are free. The network manager appears instead to concentrate its efforts on reducing channel conflict without any mention or suggestion of determining whether a channel is free (column 7, lines 8 – 54).

In the Office Action, page 3, the Examiner asserts that because Jaszewski discloses generating a new set of channel assignments for access points (column 3, line 9 – column 4, line 25), which requires free channels to be determined to reduce interferences. Appellant respectfully traverses such assertion.

Jaszweski discloses a method of assigning channels to a set of access points by measuring the interference between access points communicating on a number of channels. However, Jaszweski only discloses the measuring of interference between access points on channels that are being used. Jaszweski only teaches that an access point uses a channel that is further away from the channel that is being used by another nearby access point to reduce interference, but Jaszweski does not require free channels to be determined to reduce interferences. Therefore, Jaszweski does not

disclose the above claimed features.

In view of at least the foregoing, Appellant submits that claim 11 is patentable over Jaszewski and the rejection should be reversed.

Conclusion

As discussed above, the cited references, either taken singly or in combination, fail to disclose, teach or suggest all of the claim limitations of the pending claims. Accordingly, it is respectfully requested that the Board reverse the rejection of claims 1, 3, 6, 7, 9 and 11.

Respectfully submitted,

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8. CLAIMS APPENDIX

1. (Previously Presented) Wireless network system, comprising:
 - a first access point for providing a first communication channel to a first terminal;
 - a second access point for providing a second communication channel to a second terminal;
 - wherein the first access point is adapted to build up a third communication channel to the second access point to coordinate a setting of the first and second communication channels;
 - wherein the first access point is adapted to perform a detection for the second access point;
 - wherein the first access point is adapted to establish the third communication channel to the second access point when the second access point is detected via at least one of a core network and a wireless channel;
 - wherein the first access point is adapted to determine whether there is a first free channel and a second free channel; and
 - wherein, in case there are first and second free channels, the first access point is adapted to control a setting of the first and second communication channels on the basis of the first and second free channels.

2. (Cancelled)

3. (Previously Presented) The wireless network system according to claim 1, wherein the first and second communication channels are wireless channels.
4. (Previously Presented) The wireless network according to claim 3, wherein, in case there are no first and second free channels, the first access point is adapted to determine a first interference and channel usage map;
wherein, in case there are no first and second free channels, the first access point is adapted to request a second interference and channel usage map from the second access point;
wherein the first access point is adapted to determine an optimized channel lay-out on the basis of the first and second interference and channel usage maps; and
wherein the first access point is adapted to control the setting of the first and second communication channels on the basis of the optimized lay-out.
5. (Original) The wireless network according to claim 4, wherein a plurality of third access points is assigned to the first access point for coordinating communication channels to associated terminals; and wherein a plurality of fourth access points is assigned to the second access point for coordinating communication channels to associated terminals.
6. (Original) The wireless network of claim 1, wherein the first and second communication channels correspond to first and second frequencies in the ISM band.

7. (Previously Presented) Access point device for a wireless network system, wherein the access point device is adapted to: provide a first communication channel to a terminal; and build up a second communication channel to another access point to coordinate a setting of the first communication channel;

wherein the access point device is further adapted to: perform a detection for the other access point; and establish a second communication channel to the other access point when the other access point is detected via at least one of a core network and a wireless channel;

wherein the first access point is further adapted to determine whether there is a first free channel; and

wherein, in case there is the first free channel, the first access point is further adapted to control a setting of the first communication channel on the basis of the first free channel.

8. (Cancelled)

9. (Previously Presented) The access point device according to claim 7, wherein the first communication channel is a wireless channel.

10. (Previously Presented) The access point device according to claim 9, wherein, in case there is no first free channel, the first access point is further adapted to determine a first interference and channel usage map;

wherein, in case there is no first free channel, the first access point is further adapted to request a second interference and channel usage map from the other access point;

wherein the first access point is further adapted to determine an optimized channel lay-out on the basis of the first and second interference and channel usage maps; and

wherein the first access point is adapted to control the setting of the first communication channel on the basis of the optimized lay-out.

11. (Previously Presented) Method of operating an access point of a wireless network, the method comprising the steps of:

providing a first communication channel to a terminal;

building up a second communication channel to another access point to coordinate a setting of the communication channel;

performing a detection for the other access point;

establishing a second communication channel to the other access point when the other access point is detected via at least one of a core network and a wireless channel;

determining whether there is a first free channel;

controlling a setting of the first communication channel on the basis of the first free channel in case there is the first free channel;

determining a first interference and channel usage map in case there is no first free channel;

requesting a second interference and channel usage map from the other access point in case there is no first free channel;

determining an optimized channel lay-out on the basis of the first and second interference and channel usage maps; and

controlling the setting of the first communication channel on the basis of the optimized lay-out.

12. (Cancelled)

9. RELATED EVIDENCE APPENDIX

No evidence has been submitted pursuant to §§ 1.130, 1.131, or 1.132 of this title nor any other evidence entered by the examiner and relied upon by Appellant in the appeal.

10. RELATED PROCEEDINGS APPENDIX

Appellant is not aware of any appeals or interferences related to the present application.